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An

Inaugural Essay

on

Typhus Fever

By

Littleton H. Coleman.

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Residence (So East corner of 8th & Walnut Street
Mr Myring

Typhus Fever.

The term Typhus is derived from the Greek word τυφος, which signifies stupor, or heaviness, an affection which in a large majority of cases, is associated with this formidable shape of continued fever.

Typhus Fever has been divided by the best Nosological writers, into Typhus Mitior and Typhus Gravior; but this division cannot be of any practical utility. The latter form being nothing more than the first, with all its symptoms much augmented in force and violence: hence there appears to be no obvious reason for retaining such division.

It will be proper to add, that there is no material difference as to its nature; whether it be Idiopathic or Symptomatic, the symptoms are the same, demanding the same treatment, conducted on similar principles, and cured by the same remedies.

The only difference, which demands our attention, in the two forms mentioned by Nosological writers, is, that Typhus Mitior comes on with its symptoms much milder

than in the latter form and is more protracted in its course. It is frequently protracted to ten and twelve days, and I have known several weeks to elapse before the occurrence of the crisis.

Symptoms.— On the first appearance of Typhus, the person is seized with languor, lassitude, dejection of spirits, loss of muscular power, universal weariness, aching of the head, loins and extremities; the eyes appear full and vision somewhat impaired. The patient complains of debility, with loss of appetite and loathing of food. He becomes restless, with coldness and aching of the extremities, foul mouth, and tongue covered with whitish mucus. At this time the pulse is generally small and easily compressed, and at other times nearly natural. The bowels are in most cases constipated

These are commonly the precursors of this fever; indeed, they are continued for many days, and are often protracted to weeks, while the disease lurks concealed, or shews itself by doubtful, and obscure symptoms; until at length, it develops itself openly, and the patient is compelled to go to bed.

But Typhus Gravior is much more malignant and vehement in its onset, and rapid in its progress. As in the milder form of this disease, the patient is at first struck with sudden prostration of strength, in which the intellectual faculties fully participate. Even at this early stage, there is tenderness and soreness of the muscles; pains both acute and dull are felt throughout the head, back and extremities, with alternations of chills and flushes of heat. These symptoms are speedily followed by a well defined fever, and considerable determination to the head: which is indicated by the troublesome pulsations of the carotid and temporal arteries, tremor of the head, suffused countenance, dimness of vision, eyes wild and inflamed, and destitute of their brightness, cannot bear the light. At this time the heat is intense, great determination to the head, and a constant tendency to delirium. Examined at this conjuncture, the tongue is found dry, hard, chopped and incrusted, with a brown matter; the gums and teeth are next covered with the same offensive matter, having at this time more the appearance of fur. The pulse becomes quick and corded

with other symptoms denoting great functional derangement; respiration is especially laborious, hot and offensive; and frequently interrupted with sighing, fainting, palpitations of the heart &c. At this time the bowels are uniformly constipated, pain in the region of the stomach, attended with vomiting of bile and foul matter. As the disease advances, all the symptoms are much augmented; the pulse now becomes small, tremulous, and quick; the thirst is increased to a very distressing degree, the appetite is much impaired and attended with nausea, anxiety, and great gastric distress; the patient finally becomes restless, or if he remains long in one position, it is rather a sensation of languor than of ease, which prevents him from changing it. He is either more inclined to sleep than usual, or sleep forsakes him, and if he is inclined to sleep, it is such as does not refresh him; being disturbed by groans, dreams and starts. These are followed by still more violent symptoms; such as coma, delirium low muttering and great debility; the pain is now acute and distressing, the fever increases, the temperature of the surface is unequal, sometimes hot and dry, and at other

cold and damp. The nervous system becomes severely affected, as the amount of a subnitrous bowels frequently give way, at this stage of the disease, and profuse discharges of dark faces take place. Not unfrequently in the last stage, hemorrhages or death dissolved blood, take place from the nose mouth, gums, anus and bladder or under the cuticle forming maculae and vibices in different parts of the body. The urine presents various appearances, when it is high coloured, turbid, giving uneasiness in being discharged and depositing a deleterious sediment we may expect a favourable termination. But it is unfavourable, when it is of a dark olive colour, or pale, or limpid.

The mind is beclouded; or disturbed, by the fear of death, the patient holds up false images of things and babbles absurdities, until the pulse intermits and sinks, the extremities grow cold, hiccough ensues and death finally closes the tragic scene.

Prognosis.— These are the ordinary symptoms of typhus, when it assumes an uncommon degree of violence and malignity. But when more unfavourable circumstances present

an abatement of all febrile excitement takes place, the cu general relaxation of the surface, moisture becomes more obvious, the tongue presents moisture and cleanliness, the pulse becomes more natural and stronger, the temperature is reduced, delirium and other subordinate symptoms subside, and we may with propriety add, as a propitious omen, glandular swellings, and scabby eruptions more especially about the mouth."

Doubts. With regard to the origin of typhus fever, much controversy of opinion has existed among the best writers of Europe. By a large majority it is believed to be produced exclusively by a specific contagion. That this is the case, under certain circumstances and in certain places cannot be doubted. The experiments of Haggarth go very far in confirmation of this assertion. These experiments prove, that of one hundred and eighty eight persons, who were exposed to the contagion of this disease, in a crowded and ill ventilated apartment, eight only escaped the disease. It has also been very satisfactorily proved, that the sphere of its action is circumscribed, and never extends far in the same room

nor to neighbouring apartments; provided each be well ventilated. Nevertheless, it has been proved, that it may be conveyed by "mites". And what is more curious, not, contagion may be conveyed in the clothes of an individual, which the individual himself escapes the disease, and those persons who come in contact, or within the common sphere of its action will be attacked with the fever. In proof of this, many facts might be adduced; one of the most striking on record is, that which took place at what was called the Black Assizes at Oxford in Great Britain, under the famous Judge Jeffries. A number of prisoners were kept in small ill ventilated apartments where the jail fever had prevailed, and who had not themselves been affected with the disease, but to such a degree did the contagion exist in their clothes, that when they were brought into court, the windows opposite the place where the Judge sat, were thrown open, and the people on whom the wind blew, were infected with the fever, while those on the opposite side escaped. This also proved very fairly, that the atmosphere has considerable influence in wafting noxious vapours.

The contagious character of Typhus, is indebted generally to crowded filthy ill ventilated rooms for its propagation. This is proved by the fact that so soon as patients are removed into cleanly and well ventilated apartments, the further progress of the disease is arrested. In confirmation of this assertion, Typhus recently made its appearance in the jail of this city: the rooms of which were uncommonly crowded, and ill ventilated, the disease continued to extend itself among the prisoners, till the sick amounting to forty or fifty were removed into the large apartment, which had prior to this time been used as a place of religious worship: in this case the further progress of contagion was completely exterminated because, the room was large well ventilated, and a free circulation of atmosphere ran through out every part.

It has been a subject much disputed, as to the precise period at which contagion takes effect, and still remains in uncertainty as to absolute certainty: but from the observation of the best medical authority, it is said to develop itself from the seventh to the tenth day, though there are facts which prove very decidedly that it may be extended to fifty sixty and seventy days:

before shewing any signs of disease. This fact is confirmed by the experiments of Haygarth, Bancroft and Dr Chapman. During the summer of 1818, many vessels arrived at this port, with a large number of emigrants, among whom the ship fever had prevailed, and those individuals who had not been affected remained eight or ten weeks in the city, before they were attacked with the disease.

It must be confessed that Typhus is produced by a variety of other causes, such as marsh miasmata, great fatigue, low and abstemious diet, and from whatever tends to debilitate the system or depress the mind, and above all the sedative influence of cold.

Typhus Fever is not a prevalent disease in the Southern States, especially in private practice, but being more confined to jails, hospitals, &c: Therefore, my own observation is limited; however, now and then a few sporadic cases occurred. But, since my residence in Philadelphia, I have had frequent opportunities of seeing the disease, in its most aggravated form.

The disease in the United States, assumes a very different character from the Typhus described by European writers, and

no one has yet treated of this disease, as it appeared in the United States so correctly as my worthy preceptor Dr. Chapman, and to him I am indebted for much information on this subject, and shall proceed to detail the most effectual plan of treatment.

Treatment.— Truly unfortunate is it, that medical advice is not sought for on the first attack of fevers, the patient often flatters himself, that the premonitory sensations of disease will gradually subside of themselves; and being controlled by this mischievous impression, permits the disease to advance unlimited by an alarming combination of symptoms; he sends out for medical aid, after the disease is fully established, when if he had done justice to himself, he would have called for assistance in the early stage, because, for the most part, they might then be completely arrested, or so much reduced in their force, as to be finally overcome.

The symptoms of Typhus vary according to the time it has continued; hence the remedies proper at one period will be found invariably deleterious at another. So soon as the patient is attacked by this disease it is absolutely requisite

to enjoin immediate rest, this being neglected, the hazard is always much augmented, by attempting to cast it off by fainting or exercise.

In the commencement of fever the system appears to be depressed, by a kind of preternatural burden and not really as some have supposed, in a state of exhaustion.

Called in the early or forming stage, emetics are generally resorted to, though there is great diversity of opinion as to the propriety of this practice, but whatever may be the opinions, as to the ordinal views, practitioners of this country coincide in the propriety of the practice. The view with which emetics were formerly prescribed, was that the contagious matter still remained in the stomach, and that the further progress of the disease would be arrested by a thorough and complete evacuation of the stomach. To fulfil this indication, the antimonial emetics are prefered; they appear to make a peculiar impression on the system and according to the opinion of Rush, they depress, their most obvious effect, and thus use of the least complicated form. They produce a general relaxation of the surface, respiration becomes more easy,

the pulse is diminished in force and frequency. And it is said that, it is on the power which the heart determines of the blood to the extreme vessels, and consequently the balance of circulation, that the efficacy of opium is to be ascribed. But, whatever be the advantage of opium they aggravate all the symptoms, create much difficulty, and often protract the disease; hence they are strictly forbidden after Typhus is fully established.

It was the practice of Cullen and the numerous pupils of the Edinburgh school, to follow emetics by the antimonial preparations so as to excite nausea: this was followed until about twenty five years ago, the propriety, then being called in question by Dr Hamilton, and was supplanted by purgatives.

Having completely evacuated the stomach no time should be lost in freely moving the bowels, by means of active cathartics, and none are superior to calomel, jalap, rhubarb and gamboge given separately or in combination. The system at the time has less susceptibility than natural, and the bowels generally partake in the torpor: so that purgatives ought to be given in such doses, as to ensure their full and desired effect. There is no risk to be apprehended, of weakening the patient

between the contents will thus be, by interrupting the alimentary canal, established contents which disposes the system.

It is exhibited to be a matter to the contents to the healthy equilibrium. That the intestinal canal is in the condition, is clearly evinced by the increased bulk, the appearance of the fæces, not unfrequently bloody, and dark alvine discharges. And unless the nature of these evacuations are changed we repeat the purges again and again, or at long intervals the unpleasant and dangerous and unnatural appearance. As auxiliary to the operation of cathartics, it is recommended to remove the contents, by the exhibition of a cathartic enema, which may be given or rather the irritability of the bowels, and thus give the aperients more certainly of being retained.

The morbidly increased temperature has involved so many important considerations, and being one of the most prominent symptoms of fever, I will detail the various opinions, relative to its management before I proceed to describe the most effectual plan of treatment.

Cold applications were employed by Celsus and many other practitioners of his age with much success. But from

The various fluctuations of opinion and changes of practice, as to the disease, was overlooked for many years. Not more than a century ago, however, the practice was renewed, and the writer who at that time, discovered its efficacy was so much pleased with it, as to confer on it, the title of Vivificum magnum.

In the Island of Jamaica not more than thirty years ago, the application of cold was in general use. Among the names of those who illustrated the efficacy of cold as a remedy in fever, that of the late Dr. Lowe undoubtedly stands prominent. The rules which this inestimable writer, laid down for using his invaluable remedy were as follows: "The bottom in reducing preternatural heat in this disease, by the application of cold water, is, when the exacerbation is at its full height, or immediately after it has begun to decline. He, therefore, directs it to be employed from six to nine o'clock in the morning, the period at which the febrile action is most intense, though it may be used at any other period in the twenty four hours, when there is no sense of chillness, present, no general or profuse perspiration, and when the temperature of the surface is manifestly above what is natural, with the exception of those

cases in which there is much local congestion, especially of the lungs.

Cold may be applied in form of ablution, as, warm and as prior the latter or that of sponging is preferable." It may be done with cold water alone or mixed with brandy or vinegar. These applications produce some very salutary effects when there is great heat and determination to the head. It is in the first stage of this disease, that the use of cold is most urgently demanded. It diminishes the heat and dryness of the skin, allays irritation, pain and restlessness.

Dr. Cutler states, that cold is only applicable when the inflammation is at its full height, and attended, with a hot, dry skin, flushed countenance, inordinate thirst, restlessness and anxiety. But he goes on further and states, that there are certain symptoms in the advanced stage which call for affusion with cold water, and recommends as preparatory to its exhibition, opium, brandy and other diffusible stimulants, with a view exciting a powerful action in the system. There are various opinions relative to the modus operandi of cold. Currie supposed it acted simply by abstracting the excess of heat

from the surface. But it is maintained by Dr. Jackson, who is celebrated and eminently distinguished for Theory and practice, that cold applications are invested with the peculiar power of making a strong and lasting impression on the system: by which, the morbid actions are subdued or materially changed, and which according to this distinguished practitioner, is effected independently of the abstraction of heat. - In prescribing this remedy, he solicits our attention, to the evidence of a decided condition, and should this be absent, he recommends, as its restoration, the use of friction, the warm bath, &c.; forbidding also the application of cold, when there is a high degree of inflammatory action, and advises, as preparatory to its use, venæsection and other depletory measures.

In making cold applications to the surface, the rules which Currie has laid down, are, generally, admitted to be less hazardous and more convenient than any other except sponging; which is generally resorted to in this country and has many advantages which ablution and affusion are wholly destitute of. It is said that Dr Gregory of Edinburgh destroyed one of his own children in a convulsion.

by immersing it in cold water, the system being so suddenly depressed, could not react, and the innocent sufferer fell a victim before it could be removed from the bath.

Having employed emetics, cathartics and cold applications and the disease not being arrested in its progress, we must then resort to diaphoretics. The principle upon which they act in this disease, is similar to that of all febrile affections.

In prescribing diaphoretics we should always take the general system into consideration. If there be not much prostration we resort to the milder diaphoretics, and on the contrary, if the system appears to be sinking, and symptoms of great debility, the most stimulating remedies are urgently demanded. But, in this disease after making the necessary evacuations, the milder diaphoretics are generally resorted to, such as the neutral mixture or saline draught. This is very palatable, sets well on the stomach, diminishes thirst, reduces the temperature and produces a general relaxation of the surface.

To fulfil nearly the same indication, the dulcified spirits of nitre has been exhibited in large doses, at short intervals: it appears to cool the surface of the body, allays the inordinate thirst, and produces

an agreeable medium. We recommended by some to give this medicine in combination with laudanum when the latter is not contraindicated.

Not less efficacious, if not superior to the remedy just mentioned, is the ipecacuanha mixture but this remedy being less palatable to the patient, will often be rejected, when the former will be swallowed without a murmur. As auxiliary to where the above diaphoretics, the vapour bath, warm baths, bags of hot sand, salt, or oats, or boiled corn, applied to different parts of the body, will in many cases, hasten rest and in the production of sweat.

The antimonial preparations are admirably calculated to reduce excitement, in the ordinary febrile affections but in this stage of Typhus, they are contraindicated, from their tendency to prostrate the system, aggravate the nervous excitement, and prevent the secretion of the skin. Why they are not as applicable to this disease, as to other fevers, it remains inexplicable. Having enumerated the remedies with which we combat the first stage of Typhus, we will at once see, that they are all of the debilitating character, or such as tend to reduce

excitement, demanish heat, and remove in a few.

Nevertheless, as it has been said, relative to the pathology of typhus, there are certain cases, which partake in the commencement, more of the inflammatory type. This being indicated by the hard contracted and frequent pulse, coordinate thirst, dryness of the skin, the wild suffused countenance and great determination to the head. Typhus also shew many marks of inflammation and its ordinary effects, more strongly in the brain. The blood detracted in the early stage of certain cases of this disease, frequently exhibits a size and buffycoat. These being the most prominent symptoms, there can be no doubt as to the efficacy of depletion by venesection. It has been frequently resorted to in this country, and with unequivocal advantage. But this remedy should be used cautiously, and only by tried and discriminating practitioners. It has also been remarked, that venesection is more frequently called for in private practice, than in public institutions, such as jails, hospitals &c.

Having detained the treatment of the first stage of typhus and the disease not being arrested in its progress, the symptoms of great prostration and debility begin to develope themselves;

when complete. In second stage [illegible]. All the symptoms show a prostrated state of the system. To fulfil this indication, we must suspend all cooling remedies and substitute cordials, and the most diffusible stimuli such as the volatile alkali in small and repeated doses, on the commencement, either in form of the volatile spirits, in doses of ½ or ¾ repeated as necessity may require. The dose appears small, but it is not our design at this period to fully awaken or develop the powers of the animal economy, because it would be hazardous and exhaust the vital energies of life.

To fulfil nearly the same indication, camphor has been prescribed, and is said by some to be superior to the volatile alkali; but the latter is undoubtedly more efficacious at this stage of the disease. The camphor is better adapted to the more advanced stage, when attended with low or great prostration. There are various modes of administering camphor: it may be given in substance, or in form of an emulsion, which is preferable on account of its being less nauseous, and not so apt to be rejected. * [illegible]

of it in milk, is more palatable, and equally efficacious. It has been recently recommended by Dr. Balance to make a solution in seltzer water, which is a very pleasant mode of administering it.

It is not unfrequently at this period that vesicating applications are called into requisition. As in inflammatory fever, the efficacy of blisters in this disease have been denied by Fordyce, Tringle &c. But on the other hand, however, they are sanctioned by practitioners of equal respectability.

It is said by Cullen and Dr. Jackson, that there is more remedy in the practice of our profession, which is as well tested as point of efficacy, as that of vesicating applications in the treatment of Typhus. This fact is confirmed by the opinion of the American practitioners. It is an established rule to apply blisters as near the local affection or seat of the disease as possible. But if no local determination exists, they may be applied either to the upper or lower extremities or both. When there is great determination to the head, delirium &c. it is recommended after trying cold applications, to shave the head, which will frequently give relief, in the course of

six or eight hours. But, if the pain and other symptoms still continue unabated; we should apply a blister large enough to cover the whole head. It should remain on at least twenty four hours.

The object of blistering is to sustain excitement and tone of the system. Sinapisms have been recommended to fulfil the same indication, and by some practitioners are said to be superior: because they believed they more effectually relieve the patient by depletion, but is idle in one extreme. And the efficacy of the two applications, blisters and sinapisms, may make a more permanent impression and invigorate the system generally. But unfortunately in all low forms of fever blisters seldom succeed, but act merely as rubefacients.

It has been a subject of much dispute among practitioners as regards the utility of opium in Typhus. According to Brown it should be placed at the head of the stimulants, and by him was said to be the most important remedy in the management of this disease. But the propriety of the practice, being questioned and objected to by Fordyce, has since lost considerable reputation. This contrariety of practice

can be solved by the application, that opium being administered under particular circumstances, and in different doses will be productive of different effects. But as to the giving of opium, when proper limits are used by an intelligent practitioner there cannot be the least doubt; it has something peculiar in its operation, allays pain and irritation, and composes to sleep. It is also of the essential opium is most urgently called for, and may be given in doses of grains two or three hours; continuing at the same time the use of those medicines, which are calculated to support the system. For this purpose nothing answers better than milk and cream: it is grateful to the stomach, powerfully stimulant and nutritious.

Since the introduction of the Peruvian bark it is seldom much resorted to, but at this time is only used in cases of Typhus, when there is a tendency to vomit. This tendency is often obscure, and requires to discover it, that the practitioner should pay great attention to the progress of the disease; because the period at which these symptoms take place, is not fixed though it is generally about the middle of the disease, and

very [illegible] in the latter stage. The [illegible] must
depend much upon the cause of the disease. [illegible]
[illegible] which it generally is in the United
States the bark in [illegible] the bark is suffi-
cient at any stage of typhus. It is [illegible] at this period.
The stomach being in an irritable condition, it cannot retain
a remedy in the bark in substance without being rejected.
When this is the case, the officinal preparation or decoction will
sometimes be retained. but in some cases the stomach is either
so irritable, that it cannot be retained in any form whatever,
or loses its susceptibility to its impression. We then give
it per anum, or resort to some of the bitter tonics. the best of
which can be substituted is a decoction of the serpentaria;
this is cordial to the stomach, and peculiarly adapted to the [illegible].

These failing, arsenic has become a fashionable remedy with
some but it is undoubtedly, much inferior, in the treatment
of typhus, to the above named remedies.

To meet nearly the same indication, and more especially
when there are nervous symptoms, such as tremors, twitching,
of tendons, muttering and low delirium, the carb. of [illegible]

are called into requisition, the chief of which are, musk, castor and assafœtida. The former being most [illegible], and is generally employed. It may be exhibited in form of a bolus or julep, the former is bulky and apt to be ejected, hence the latter mode is preferable.

Castor is less efficacious and rarely prescribed.

Assafœtida, though undoubtedly inferior to musk, is an excellent remedy in the treatment of this disease. It may be given in shape of pills, or a watery solution, the dose is the same as that of musk. It is said by some practitioners, that its articles are endowed with some peculiar power, in combating uncourageous actions. But on the other hand, we have quite as good authority in favour of opium.

In the last stage of Typhus, the carbonate of ammonia has been exhibited in the form of injection. The author of this practice was led to its use from the supposition that it was possessed of antiseptic properties. But to our universal regret, for our learning, that whatever may be the appearance of the disease, putrefaction never takes place in the living subject. Be this theory correct or not, the practice is comparatively useless.

carbonic acid is principally the source of relieving the stomach of its distress, and by the impression thus made, conducts [illegible] to the general system.

The seltzer water, the decoction of [illegible] or the malt liquor may be substituted for the yeast. The latter is which is generally [illegible] in all the European hospitals cider is preferred; but though it may be more palatable to the patient, experience teaches us that it is much inferior to perfectly ripe porter.

[illegible] have been recommended with the view of arresting putrefaction. They were administered about fifty years ago in Great Britain but [illegible] Foreign [illegible] are [illegible] stimulating their effects on the treatment of typhus. It was from their efficacy in the management of angina maligna, that he was induced by them in the [illegible] stages of fever, and more particularly in typhus. After having evacuated the alimentary canal, he proceeded, to exhibit these acids freely and repeatedly; which being done, was attended with [illegible] effects, that any other method should.

It is [illegible] that [illegible] more

vide given immediate stimulation on the continent
of Europe. And during the last war, many Typhus
received in military hospitals in that country, and the
number of such fevers was so great, as to cause the King of
Prussia to give him letter the most counsels, during the cure
which was ascertained to consist in the use of the mineral acids.
Notwithstanding the weight of evidence in favour of their employment, they have not been attended with the same success
in this country, nor can it be credited, that they are invested
with properties, capable of supporting strength in the last
stage of this disease. The mineral acid generally used to fulfil this indication, the dose is from gtt X to XV. given in
a tolerable portion of bark or some other tonic.

Mercury having been productive of such salutary effects
in common febrile affections, has not been altogether overlooked
in the last stage of Typhus. I have before mentioned, that it
is given in the first stage, with the view of relieving the alimentary
canal, of its secretent and vitiated contents. Not unfrequently
in the latter stage of this disease, there is a dark colour accumulating on the tongue, gums, and fauces, and in all probability

the whole intestinal canal, is lined with the same. These are alarming symptoms, and call for mercury in small and repeated doses: in the manifold purposes of unloading these retained contents, and of exciting a increased fever, which will supplant the existing diseased action. The stomach at this time is generally very irritable, and however small the dose may be, it will frequently be rejected. We then use it externally, in form of an ointment, or administer it per anum. It is to be recollected, that in the exhibition of this remedy, we are not to desist from the free use of stimulant and cordial medicines. To abandon them, and trust to mercury alone would be hazardous, and tampering with the life of the patient.

There are certain local determinations, which yet remain to be spoken of more particularly, such as pain, and great determination to the head: Shewing on dissection, that the brain is the chief seat of the disease, or that it has exerts its whole force on this important organ. The local affections are attendants of the primary, as well as the subsequent stages.

The indications when these phenomena present, are plain and intelligible, the brain being in a congested and

a limited extent, nothing necessarily can be done, except
as well applications and topical bleeding by cupping, leeches,
and other blisters, if be tried, the temple, the neck
be opened. These remedies will often relieve the pain and
delirium. But should they fail, the whole head may be cover
ed with a large blister. The spinal marrow be specially
connected with the brain not unfrequently participates in
the nervous determinations. We may, when such symp=
toms present, expect much benefit from rescalding the spine
and the back of the neck more particularly. Now, the functions
of the spinal marrow, the respiration, the circulation and
the intellectual operations of the mind, cease, are impaired, or
altogether suspended.

Delirium is ushered in the commencement by the
contraction of the brain, and in the second stage,
by violent delirium. And at this period morbid vigi
lance, anxiety, restlessness, and not unfrequently diarrhoea,
become more distressing. And it is at this conjuncture,
that opium stands, as yet, unrivalled. It may be given
alone, or in combination with the calcareous preparations &c.

Here are the general remedies which have been employed
[illegible] but without avail. Here follows the treatment of the disease, which at least affords
to the attendants to remove all recommendations [illegible]
instantly, and to pay great attention to cleanliness. Also the
bed clothes and body linnen should be changed at least
once in twenty four hours. If the apartment will admit
it, fires should be frequently kindled in the room, or
make use of gases which have been found, when used
often prevent the progress of contagion. But it sometimes happens
that the chamber cannot be ventilated; in that case
it is necessary to remove the patient into another apartment. And lastly
it is highly important to exclude company, and communication in all towns and more particularly in the towns before us,
they distract the mind of the patient, prevent sleep &c.
Regimen. — In most cases, it is requisite to enjoin a strict abstinence to the antiphlogistic plan in the first stage, but if
a turned, requires a more nutritious diet; such as the
essence of beef, with the free exhibition of wine and the most
diffusible stimuli. The drinks should be cooling &c.

Typhus nitrous acid occupies our time in such a succession, and presents a train of symptoms, which require a learning and tight hand. This should not detract us from perseverance in our remedies: for we never have recourse in this disease, under the most gloomy and desperate circumstances: it should augment the dose of the our remedies, and persevering the volatile alkali and wine.

The oil of turpentine, given in doses of ℥j or more every half hour, will sometimes rouse the system, when most other remedies fail. The credit is undoubtedly due to Dr. Chapman for the introduction of this remedy, in the treatment of Typhus.

Cayenne pepper has been much resorted to by the West India practitioners; they were led to use it in the last stage of this disease, from its being so effectual in the treatment of cynanche maligna, and the success of the practice is confirmed by the practitioners of this country. It is administered in doses of grs. x. repeated as necessity may require.

To fulfil the same intention phosphorus has been recommended but being so deleterious in its effects, when not well timed, is seldom resorted to.

Blisters at this stage of the disease are prohibited; they seldom draw, and when they do, it is only partial, and is apt to produce gangrene.

As a substitute for blisters, frictions with cayenne pepper and brandy, or a solution of phosphorus rubbed over the whole body, will frequently excite the susceptibility of the system, so that, other remedies may be exhibited: which will sustain and give tone to the system generally. These failing, the tincture of cantharides and spirit of turpentine, or what is still better, a decoction of the flies in the turpentine, will, sometimes, succeed when all other remedies have failed.

It not unfrequently happens, that the patient becomes so far exhausted, as to be unable to swallow any medicine whatever: we then apply our means to the rectum, and most of the remedies above named may be thus administered. The rectum being a new surface, is possessed of more susceptibility, and is susceptible of being acted on, by opium, musk or wine: either will produce their common effect. But, the dose should be augmented to three times the ordinary quantity given by the mouth.

Having now detailed the most approved plan of treating this disease, as it appears in the United States. I can only recommend, perseverance in all the remedies, as the most effectual means of substituting healthy for diseased action. Let the symptoms be ever so alarming and hideous: we must not despair; but go on increasing the dose of all our remedies: by which means, the lives of many are saved.